

Effect of Organic Sources and Inorganic Nitrogen on Productivity and Profitability in Transplanted Rice

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Field experiments were conducted at the Tamil Nadu Agricultural University, Coimbatore in *Kharif* and *Rabi* seasons of 2011-12 and 2012-13 to find out the influence of different organic sources and inorganic N fertilizers on rice productivity and profitability. The experiment was conducted in Randomized Block Design (RBD) with three replications. The soil type was clay loam. The results clearly indicated that integration of 50 % N as organics through *Sesbania aculeata* with 50 % N as inorganic (Urea) increased the yield by 24 percent in kharif and 25 percent in rabi rice combination. The available N, P, K and organic carbon contents were increased in the above treatment as compared to 100 % N through inorganic alone. Observations on growth, yield, available nutrient status and economics were taken during the period of investigation. Application of 50 % N through *Sesbania aculeata* + 50 % N as inorganic fertilizer gave higher net return and benefit cost ratio of Rs. 58261 and 62921 ha⁻¹ and 2.94 and 2.87 during 2011-12 and 2012-13 respectively in the *kharif* and *rabi* seasons. Thus in conclusion, application of 50 % N as organics @ 2000 kg/ha through *Sesbania aculeata* with 50 % N as inorganic @ 163 kg/ha Urea registered higher productivity with enhanced economic returns and soil fertility status in transplanted rice.

Keywords: Inorganic N, Soil fertility, Press mud, Poultry manure, *Sesbania aculeata*